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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/509,753	03/29/2000	GIDEON AMIR	UDL	2882

7590 03/19/2004  
William H. Dippert  
Reed Smith LLP  
599 Lexington Avenue  
29th Floor  
New York, NY 10022

EXAMINER

RAHIMI, IRAJ A

ART UNIT PAPER NUMBER

2622

DATE MAILED: 03/19/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/509,753

Applicant(s)

AMIR ET AL.

Examiner

(Iraj) Alan Rahimi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## **DETAILED ACTION**

### ***Response to Amendment***

1. In papers filed on January 8, 2003, applicant amended claims 1 and 3 and added new claims 17 and 18.

### ***Response to Arguments***

2. Objections made to the specification and claim language in the previous office action are withdrawn. Applicant's arguments with respect to claim have been considered but are moot in view of the new ground(s) of rejection. Objected claims were withdrawn.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6, 8, and 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liguori (US patent 5,912,672) in view of Carlsen (US patent 6,466,210).

Regarding claim 1, Ligouri discloses a page composition method for composing a page from elements in a continuous tone pixelized form or in a bit-mapped form for printing comprising:

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(a) determining the positions of the elements on a printed page (column 5, lines 27-34);  
(b) dividing the page into bands (Fig. 2);  
(d) writing the data to a buffer memory as it is read (column 9, lines 1-5); and  
(e) transferring the data from the buffer memory when all the data corresponding to all portions of all elements in the band is written in the buffer memory (column 9, lines 6-7).

wherein a band contains overlapping portions of two elements (In Figure. 2, band 1 contains overlapping objects 14 and 15).

However, Liguori does not clearly disclose:

(c) serially transferring pixel data values for sections of bands corresponding to the portions of respective elements in a band, to a buffer memory, wherein the data from the portion of one element in a band is completely read prior to reading data corresponding to the portion of a second element in the band. Carlsen discloses in column 7, lines 27-38 and 56-60 that objects associated with a layer are stored and retrieved by layer. Liguori and Carlsen are analogous art because they are from the same field of endeavor that is graphical object rendering. Therefore, it would have been obvious to a person skilled in the art, at the time of invention to combine Carlsen with Liguori to eliminate the undesirable artifacts and other cumulative effects in blending multiple objects (column 4, lines 37-45).

Regarding claim 2, Liguori discloses a page composition method according to claim 1 wherein certain of the pixel values in certain elements are indicated as being transparent and wherein no data is written into the buffer memory for such pixel values (column 4, lines 57-64). Liguori states that if object is active and opaque, output color is stored. Inversely, it would have

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been obvious to a person skilled in the art, at the time of invention to conclude that for transparent object output color is not stored.

Regarding claim 3, arguments analogous to those presented for claims 1 and 13, are applicable.

Regarding claim 4-6, arguments analogous to those presented for claim 14-16, are respectively applicable.

Regarding claim 8, Liguori discloses a page composition method according to any of the claims wherein after all of the data corresponding to a given band to a buffer memory is completed, (c) - (e) are repeated for a second band (column 3, lines 55-56).

Regarding claim 13, Carlsen discloses a page composition method according to claim 2 and including:

determining the relative layer of the overlapping elements,

Wherein the portions of the elements in the band are transferred to the buffer memory in an order which corresponds to the determined layer of the overlapping elements (column 7, lines 27-38 and column 8, lines 1-22).

Regarding claim 14, Carlsen discloses a page composition method according to claim 13 wherein certain of the pixel values are indicated as being opaque and wherein pixel data from the

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underlying layer is replaced by data from an overlaying opaque layer (column 7, lines 27-38 and column 8, lines 1-22).

Regarding claim 15, Carlsen discloses a page composition method according to claim 13 wherein certain of the pixel values are indicated as being of transitional nature and wherein the data in the buffer is a combination of the data in an overlapping layer and in an underlying layer (column 7, lines 27-38 and column 8, lines 1-22).

Regarding claim 16, Carlsen discloses a page composition method according to claim 15 wherein the combination of data is a weighted average of the pixel values in the upper and lower layers (column 7, lines 27-38 and column 8, lines 1-22). It is also well known in the art to use averaging to combine value of two pixel values into one.

Regarding claim 17, Carlsen discloses a page composition method according to claim 1-6 wherein overlapping elements comprise elements selected from image and line work (column 1, lines 47-50).

Regarding claim 18, Carlsen discloses a page composition method according to claim 1-6 wherein overlapping elements are color elements and wherein separate color separations are generated for each color. (column 4, lines 1-5; column 17, lines 64-67 and column 18, lines 1-12).

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5. Claims 7 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liguori (US patent 5,912,672) in view of Carlsen (US patent 6,466,210) and further in view of Morikawa et al. (US patent 5,136,688).

Regarding claim 7, Morikawa discloses page composition method according to any of the preceding claims wherein after transfer of data, corresponding to a band, to a buffer memory is completed, the data is transformed into bit mapped form suitable for printing (column 2, lines 26-29). Dot image is same as halftone image or bitmap image. Liguori and Morikawa are analogous art because they are from the same field of endeavor that is data processing for image forming apparatus by dividing the image data in units of bands. Therefore, it would have been obvious to a person skilled in the art, at the time of invention to use the dot image of the Morikawa to output to printer to speed up printing from a band memory by having the data printer ready.

Regarding claim 9, Morikawa et al. discloses a page composition system according to claim 8 wherein the data for the second band is transferred into a second buffer memory (column 2, lines 8-25).

Regarding claim 10, Morikawa discloses a page composition method according to claim 9 wherein the data corresponding to the second band is transformed into bit mapped form suitable for printing after data for the first band is so transformed (column 2, lines 26-29). Dot image is same as halftone image or bitmap image.

Regarding claim 11, Morikawa discloses a page composition method according to any of the claims 1-6 and including zeroing the pixel values in a buffer memory after data from the memory is transferred therefrom. As indicate in column 2, lines 8-25, once the first band memory transfers data to the second band memory, its content is cleared or zeroed in order to be able to accept data for the next band.

Regarding claim 12, Morikawa discloses a page composition method according to claim 11 and including repeating (c)-(e) for an additional band, wherein said data is written into a buffer memory into which data for another band was written previously after such data is transferred therefrom (column 2, lines 8-25).

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,



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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


***Contact Information***


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Iraj) Alan Rahimi whose telephone number is 703-306-3473.

The examiner can normally be reached on Mon.-Fri. 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L Coles can be reached on 703-305-4712. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3800.

  
Alan Rahimi  
March 16, 2004

  
EDWARD COLES  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600